

**Clean Version of Amended Claims**

26 (twice amended). A synthesis system, comprising a vessel for a combinatorial chemical process having:

a charge port comprising an air lock capable of sequentially receiving a plurality of discrete combinations of reactants;

a reaction chamber in communication with said charge port, said reaction chamber being capable of receiving and enclosing the plurality of discrete combinations of reactants disposed linearly within said chamber; and

a discharge port comprising an air lock, distinct from said charge port, in communication with said reaction chamber to sequentially discharge reaction products of said combinations from said reaction chamber.

31 (amended). The system of claim 26, further comprising a detector proximate to said discharge port to detect said sequentially discharged reaction product from said reaction chamber.

35 (amended). A synthesis system, comprising a vessel for combinatorial chemical synthesis having:

a charge port comprising an air lock controlled by a ball valve and capable of sequentially receiving a plurality of discrete combinations of reactants;

a reaction chamber in communication with said charge port, said reaction chamber being capable of receiving and enclosing the plurality of discrete combinations of reactants disposed linearly within said chamber;

a discharge port comprising an air lock controlled by a ball valve to sequentially discharge reaction products of said combinations from said reaction chamber;

a detector proximate to said discharge port to detect said sequentially discharged reaction product from said reaction chamber; and.

a controller in communication with said reaction vessel to control varying reaction parameters within said chamber.